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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/802,715

03/18/2004

Chun-Chin Chen

Q80540

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23373 7590 08/02/2007  
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EXAMINER

SANDERS, JANIS C

ART UNIT

PAPER NUMBER

1732

MAIL DATE

DELIVERY MODE

08/02/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/802,715	Applicant(s) CHEN ET AL.	
	Examiner Janis Sanders	Art Unit 1732	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 March 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 12-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 12-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 12-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Willis.

As required by claim 12, Willis (US 3,178,770) teaches a continuous extruded article is produced (col. 5, lines 74-75).

The invention provides a controlled die extruder system comprising an extruder die comprising a housing, twin cylinders rotatably mounted in rolling engagement in said housing, at least one of said cylinders being provided with an orifice-defining (shaping article) circumferentially extending groove of varying dimensions (col. 2, lines 29-35). Figure 8 discloses a shaping edge (knife) for shaping the molten material as it leaves the extruder.

A variable orifice die is capable of producing tapered (contoured) extruded materials of varying cross sectional (gradient range) design (col. 1, lines 41-43).

Each of said cylinders is provided with a complementary orifice-defining surface, wherein said surfaces vary from substantially zero dimensions at 0 degrees of cylinder

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rotation to maximum dimension at about 180 degrees of cylinder rotation (col. 8, lines 1-5).

Regarding claim 13, the variable diameter die and extruder system can be used in extruding synthetic materials, i.e., Nylon (elastomer), etc. in the form of tapered filaments (col. 7, lines 39-44).

Regarding claims 14 and 15, each of said cylinders is provided with a complementary orifice-defining surface, wherein said surfaces vary from substantially zero dimensions at 0 degrees of cylinder rotation to maximum dimension at about 180 degrees of cylinder rotation (col. 8, lines 1-5). It is in the view of the examiner that both perpendicular and oblique rotation around axis will be achieved in an allowance of rotation range 0-180°.

Regarding claims 16 and 17, a continuous extruded cord of substantially uniform cross section is produced, or optionally the extruded cord has a predetermined tapered cross section, as the dies are rotated by rack drive from a first position to a second position in one direction, and then reversed to the first position in conformance with the preset program (col. 6, lines 1-6).

3. Claims 18-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Willis (US 3,178,770).

As required by claim 18, Willis (US 3,178,770) teaches a continuous extruded article is produced (col. 5, lines 74-75).

The invention provides a controlled die extruder system comprising an extruder die comprising a housing, twin cylinders rotatably mounted in rolling engagement in said housing, at least one of said cylinders being provided with an orifice-defining (shaping article) circumferentially extending groove of varying dimensions (col. 2, lines 29-35). Figure 8 discloses a shaping edge (knife) for shaping the molten material as it leaves the extruder.

By the term "orifice-defining" is meant that the groove or grooves (figure 3 featuring two shaping orifices), as the case may be, in one, or both cylinders, defines an opening of desired cross section adapted to transform the extrudable material entering the die from its shapeless form to a form having a cross section conforming substantially to that defined by the groove or grooves (col. 2, lines 20-25).

A variable orifice die is capable of producing tapered extruded materials of varying cross sectional (gradient range) design (col. 1, lines 41-43).

Each of said cylinders is provided with a complementary orifice-defining surface, wherein said surfaces vary from substantially zero dimensions at 0 degrees of cylinder rotation to maximum dimension at about 180 degrees of cylinder rotation (col. 8, lines 1-5).

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Regarding claim 19, the variable diameter die and extruder system can be used in extruding synthetic materials, i.e., Nylon (elastomer), etc. in the form of tapered filaments (col. 7, lines 39-44).

Regarding claims 20 and 21, a continuous extruded cord of substantially uniform cross section is produced, or optionally the extruded cord has a predetermined tapered cross section, as the dies are rotated by rack drive from a first position to a second position in one direction, and then reversed to the first position in conformance with the preset program (col. 6, lines 1-6).

#### ***Remarks***

4. No claim is allowed.

#### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Zaikovsky et al. (US 4,050,288) and Yada (US 6,196,615) disclose methods of die shaped extrusion.

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6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janis Sanders whose telephone number is 571-272-7145.


The examiner can normally be reached on M-F 8-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on 571-272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Janis Sanders  
Patent Examiner  
Art Unit 1732

7/19/07

  
CHRISTINA JOHNSON  
SUPERVISORY PATENT EXAMINER  
7/27/07